# Inside Wallops

National Aeronautics and Space Administration
Goddard Space Flight Center
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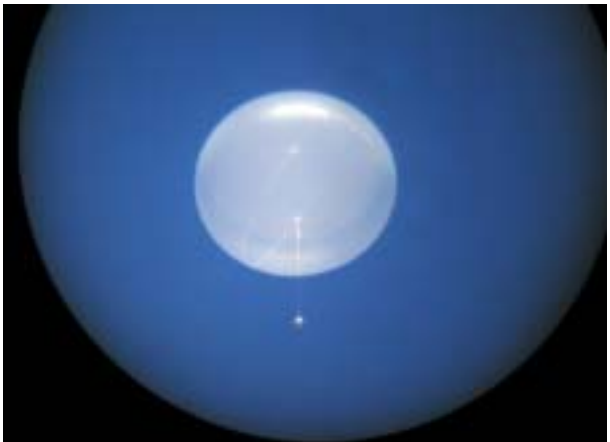
## New NASA Balloon Successfully Flight-Tested Over Antarctica

NASA and the National Science Foundation have successfully launched and demonstrated a newly designed super pressure balloon prototype that may enable a new era of high-altitude scientific research. The super-pressure balloon ultimately will carry large scientific experiments to the brink of space for 100 days or more.

This seven-million-cubic-foot super-pressure balloon is the largest single-cell, super-pressure, fully-sealed balloon ever flown. When development ends, NASA will have a 22 million-cubic-foot balloon that can carry a one-ton instrument to an altitude of more than 110,000 feet.



***NASA super pressure balloon at an altitude of 111,000 feet above Antarctica as viewed from a ground based telescope.***

"This flight test is a very important step forward in building a new capability for scientific ballooning based on sound engineering and operational development," said W. Vernon Jones, senior scientist for suborbital research at NASA Headquarters.

The test flight was launched Dec. 28, 2008, from McMurdo Station, which is the National Science Foundation's logistics hub in Antarctica. The balloon reached a float altitude of more than 111,000 feet and continues to maintain it as of today. The flight tests the durability and functionality of the scientific balloon's unique pumpkin-shaped design and novel material. The material is a special lightweight polyethylene film, about the thickness of ordinary plastic food wrap.

"Our balloon development team is very proud of the tremendous success of the test flight and is focused on continued development of this new capability to fly balloons for months at a time in support of scientific investigations," said David Pierce, chief of the Balloon Program Office at NASA's Wallops Flight Facility. "The test flight has demonstrated that 100 day flights of large, heavy payloads is a realistic goal."

In addition to the super pressure test flight, two additional long-duration balloons have been launched from McMurdo during the 2008-2009 campaign. The University of Hawaii Manoa's Antarctic Impulsive Transient Antenna launched Dec. 21, 2008, and is still aloft. Its radio telescope is searching for indirect evidence of extremely high-energy neutrino particles possibly coming from outside our Milky Way galaxy.

The University of Maryland's Cosmic Ray Energetics and Mass, or CREAM IV, experiment launched Dec. 19, 2008, and landed Jan. 6, 2009. The CREAM investigation was used to directly measure high energy cosmic-ray particles arriving at Earth after originating from distant supernova explosions elsewhere in the Milky Way galaxy.

NASA and the National Science Foundation conduct an annual scientific balloon campaign during the Antarctic summer.

Launch operations are conducted by the Columbia Scientific Balloon Facility of Palestine, Texas.

Track the balloons online at:
http://www.csbf.nasa.gov/antarctica/ice0809.htm

## Bill Krabill Retires

William (Bill) Krabill (above) retired Jan. 2, 2009, from NASA Wallops Flight Facility, Cryospheric Sciences Branch. He was a physical scientist with over 41 years of government service.

Krabill pioneered the use of carrier phase tracking of Global Positioning System (GPS) signals on a moving platform. This capability led to the Arctic Ice Mapping Project. NASA's P-3 aircraft instrumented with two laser remote sensors, several radar remote sensors, and multiple GPS receivers has collected more than 4,000,000,000 surface elevation measurements over the Greenland Ice Sheet during flights that have taken place for each of the last 12 years.

The result is a decade of repeating measurements for change detection studies, yielding a clear indication of significant thinning along the eastern and southern edges of the ice sheet and a net negative mass balance for the entire Greenland ice sheet.

Krabill also has mapped the entire East Coast shoreline, including several repeat surveys following major storm events. A 621 mile survey of the West Coast shoreline was conducted before and after the 1997-98 El Nino winter season. The entire shoreline of Puerto Rico and 373 miles of the Gulf Coast have been mapped with more coverage planned. Numerous federal, state, and university researchers are using this extensive data set.

## Warm, Wet Weather Continues by Ted Wilz, Senior Meteorologist

The warm, wet weather trend that began in November continued into December. The holidays came and went with no significant winter weather, but the harshest part of winter is yet to come.

Rainfall was abundant last month.

There were 13 days with measurable precipitation, instead of the normal 9 days. We had 5.83 inches of rain, well above the monthly average of 3.28 inches. Most of the rain occurred on December 11, when we had 4.35 inches, followed by .59 the next day.

December was the second month in a row with mild temperatures, which averaged 3.5 degrees above normal. A new daily record high (73 degrees) was set on December 28. Christmas Day was unseasonably mild with a high temperature of 65 degrees. This was one of the eight days during the month when temperatures reached 60 degrees or warmer.

December also was an exceptionally windy month. There were 14 days with 30 mph winds or greater. On December 7, winds reached 53 mph. The strongest winds occurred on December 31, with a peak gust of 59 mph to usher in the New Year!

February usually provides some of the bleakest weather of the year on the Eastern Shore. At the beginning of the month we can expect lots of clouds and average highs usually running in the mid 40's. By the end of the month, high temperatures reach the low 50's. Average lows start in the upper 20's warming only to the low 30's as March arrives.

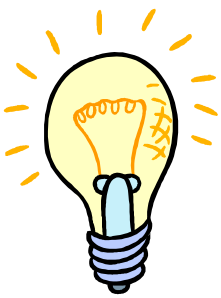
The record low temperature, a frigid -4 degrees, for February at Wallops Island occurred on Feb. 2, 1971. The record high for the month is 79 degrees, recorded on Feb. 1, 2002. The average is just over three inches of precipitation during the month. February also usually is the month with the most snow. This area usually receives around three inches of snow.

Martin Luther King, Jr. Day, January 19, commemorates the life of the national leader of the civil rights movement in the 1960's.

## Electric Consumption Rankings November 22 to December 21, 2008

Overall Rankings:

| | | |
|---|---|---|
| 1. | E-134 | -44.8 % |
| 2. | F-10 | -36.8 % |
| 3. | Z-40 | -33.9 % |
| 4. | Y-15 | -19.9 % |
| 5. | E-100 | -14.9 % |
| 6. | X-15 | -14.2 % |
| 7. | F-4 | -14.1 % |
| 8. | B-129 | -13.6 % |
| 9. | F-1 | -12.7 % |
| 10. | X-75 | -9.1 % |
| 11. | M-20 | -7.8 % |
| 12. | X-55 | -7.6 % |
| 13. | D-10 | -6.7 % |
| 14. | V-24 | -5.8 % |
| 15. | E-2 | -5.4 % |
| 16. | W-15 | -3.5 % |
| 17. | E-106 | -2.9 % |
| 18. | E-007 | +0.0 % |
| 19. | E-104 | +0.4 % |
| 20. | AEGIS | +1.3 % |
| 21. | X-35 | +2.3 % |
| 22. | A-001 | +3.2 % |
| 23. | F-19 | +4.0 % |



| | | |
|---|---|---|
| 24. | F-5 | +4.9 % |
| 25. | D-008 | +6.5 % |
| 26. | N-162 | +7.2 % |
| 27. | E-107 | +7.9 % |
| 28. | E-105 | +8.6 % |
| 29. | V-050 | +11.3 % |
| 30. | B-031 | +11.8 % |
| 31. | N-161 | +12.2 % |
| 32. | W-040 | +15.3 % |
| 33. | E-109 | +15.9 % |
| 34. | F-6 | +16.5 % |
| 35. | N-159 | +18.0 % |
| 36. | F-016 | +19.5 % |
| 37. | W-20 | +21.4 % |
| 38. | F-2 | +26.5 % |
| 39. | F-160 | +28.3 % |
| 40. | F-7 | +44.5 % |
| 41. | F-3 | +45.7 % |
| 42. | N-222 | +56.9 % |
| 43. | D-1 | +59.1 % |
| 44. | M-15 | +70.6 % |
| 45. | W-65 | +153.6 % |
| 46. | Z-65 | +329.0 % |

## Take Your House Off the Grid, Room-By-Room Wallops Recycles Day

Lunch and Learn
Noon on January 22, 2009
Williamsburg Room

The Wallops Environmental Office and Eco-club will jointly host Spess Neblett owner of, a bed and breakfast in Onley, Va. Using cheap solar panels and homemade windmills, Neblett is taking his inn off the grid room-by-room.

Information will be available on recycling and green purchasing as part of America Recycles Day.

## Wallops Shorts.....

### Alaska Campaign

The first launch of the 2009 Alaska Campaign took place from Poker Flat Research Range on January 10 with the launch of a NASA Improved Orion sounding rocket. The student experiments performed well. Ten of the twelve thermocouples in the Ionospheric Science and Inertial Sensing (ISIS) experiment functioned nominally. Denise Thorsen, University of Alaska was the experimenter. Libby West, NASA Sounding Rockets Program Office, was the campaign manager. Bill Payne, NASA Sounding Rocket Operations Contract (NSROC) was the mission manager.

## NASA Credit Union Investment Day

January 21 from 9 a.m. to 4 p.m.
Building N-133

You don't have to be a CU member to attend. A financial advisor will be available to meet on a one-to-one basis and discuss investment strategies, retirement planning, college funding, direct rollovers and IRA transfers. There is no cost or obligation.

To schedule a meeting or to learn more, call 888-627-2328, ext. 650.

***Inside Wallops*** is an official publication of Goddard Space Flight Center and is published by the Public Affairs Office, x1584, in the interest of Wallops employees. Recent and past issues of *Inside Wallops* also may be found at: http://www.nasa.gov/centers/wallops/news/newsletters.html

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